3.3 CULTURAL AND SOCIOECONOMIC ENVIRONMENT

3.3.1 Introduction

The socioeconomic context refers to the social, economic, and cultural connections of nearby communities with the KRNCA. It incorporates the region's social history, and informs community assessment and response to resource management issues. The social mix of individuals and groups affects community cohesiveness, capacity for cooperation and problem solving, and other social variables that influence the identification and response to resource management issues. Cultural orientations, especially sense of place, values about natural resources, and world views about nature influence how groups identify management issues and construct acceptable solutions.

Because BLM interacts frequently with nearby residents and groups to address local concerns and issues regarding KRNCA management efforts, the area's history and sociocultural composition are important elements to incorporate into any planning effort.

Roughly 500 acres of the KRNCA fall within northern Mendocino County, but the social and cultural dynamics in the area connect most strongly to southwestern Humboldt County. The small communities of Petrolia, Honeydew, Ettersburg, and Whitethorn/Thorn Junction lie just outside the KRNCA boundary, while Shelter Cove, currently a mostly-residential subdivision, is completely surrounded by BLM lands. Gateway communities close to Highway 101, the major north-south route, include Garberville, Redway, and Ferndale. The largest cities in the region are Eureka and Arcata, both 1-2 hours north of the KRNCA by car (see Figure 3-3).

Because Humboldt County is where most local communities and other potentially affected socioeconomic resources are located, it is the primary focus of this section. As a result, many data on existing economic conditions is provided at the county level for Humboldt County only; comparative information for Mendocino County is provided where appropriate. In addition, some statewide economic indicators are provided to help put local conditions in perspective; however, other state and national economic conditions are not addressed because the RMP update only has the potential to cause very minor or negligible economic impacts beyond the local study area. However, given the importance of the KRNCA to a variety of social groups, the social portion of this section addresses issues in a broader context beyond the local study area. Thus, the affected social environment also includes urban northern California and many other areas where many King Range visitors reside, or where people are found who care about and identify with the King Range but do not actually visit the Lost Coast.

3.3.2 Applicable Regulatory Framework

Section 202 of FLPMA requires BLM to integrate physical, biological, economic, and other sciences in developing land-use plans (43 USC § 1712).

Section 102 of NEPA requires federal agencies to "insure the integrated use of the natural and social sciences … in planning and decision making" (42 USC § 4332). FLPMA regulations 43 CFR § 1610 and the BLM Manual 1601 Land Use Planning and H-1601-1 Land Use Planning Handbook further elaborate on this legislative mandate.

Federal agencies are also required to "identify and address … disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States" in accordance with Executive Order 12898 on Environmental Justice.

The Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508) provide guidance related to social and economic impact assessment by noting that the "human environment" assessed under NEPA is to be "interpreted comprehensively" to include "the natural and physical environment and the relationship of people with that environment" (40 CFR 1508.14). Furthermore, these regulations require agencies to assess not only "direct" effects, but also "aesthetic, historic, cultural, economic, social, or health" effects, "whether direct, indirect, or cumulative" (40 CFR 1508.8).

3.3.3 Historical Context

Today's KRNCA is a landscape of intricately connected patterns of human and natural history. Past settlement and uses of the area by a variety of peoples has been as important as ecological processes in shaping and creating the place that the BLM manages today. In order to better understand how the King Range came to look the way it does, as well as the context in which BLM management is taking place, it is important to briefly review the area's cultural history and present-day social context.

3.3.3.1 Native Americans

Prehistory

Prehistory in the West is often divided into four time periods: Early, Paleoindian, Archaic, and Late Prehistoric, although some scholars use different terms.[2] No Early or Paleoindian Period sites have been located in the King Range planning area and hence these periods will not be discussed further.

[2] For example, for the north coast of California, Fredrickson (e.g., 1974) refers to the Late Prehistoric as the Emergent Period. The cultural contents of these temporal periods are called a variety of terms in different geographical areas by different scholars and are typically named for an archaeological type site where a pattern, complex, or horizon was first described, but sometimes for the person who discovered it. The patterns, complexes, or horizons may be subdivided into phases or aspects, often named for an archaeological type site. Prehistoric periods have been presented in these arbitrary terms by archaeologists working with the archaeological record as a means to define and separate the past so it can be discussed in segments rather than as a continuum.

The Archaic Period is generally divided into (1) Early (ca. 8,000 to 5,000 years ago) represented by millingstone assemblages characterized by unshaped manos and metates made of a variety of rock types suggesting a generalized hunting and hard seed collecting economy; and (2) Middle (ca. 5,000 to 3,000 years ago) characterized by the bowl mortar and pestle indicating a shift to an emphasis on an acorn processing economy; and Late (3,000 to 1,500 years ago). These various time periods can usually be distinguished by specific projectile point typologies. There is also an increase over time in the numbers of projectile points found at sites, which can be interpreted as intensification of hunting. Early and Middle Archaic Period sites have not yet been identified along the coastal strand but have been recorded inland approximately six miles from the coast. Scientific archaeological excavations and analysis of several prehistoric sites on the King Range coast date the remains to the Late Archaic Period. The coastal area appears to contain cultural deposits no older than 2,800 years, possibly due to the continued geologic uplifting and erosion factors.

For the Late or Emergent Prehistoric Period, a regional migration model was proposed by Whistler (1979) based on linguistics. Whistler suggests that the Yurok moved into the area around A.D. 1100, displacing the Wiyot, who may have settled the area 200 years earlier, to the south. Both of these groups have languages based in Algonquian linguistic family. The Yurok brought a well-developed fishing and woodworking technology that they easily adapted to their new marine and riparian homeland; these technologies soon spread to groups in adjacent areas. From their smaller river canoes, they developed the large dugout canoe for exploiting offshore sea mammal rookeries in their new environment (Hildebrandt 1981). Whistler also suggests that the Sinkyone, Mattole, and Bear River groups, all speaking variations of an Athabaskan linguistic pattern, arrived in the King Range region approximately 600 to 700 years ago (ca. A.D. 1400).[3] Evidently, they too adopted many of the Yurok fishing, woodworking, and hunting techniques and technologies.

Archaeologically, the migration of the Wiyot and Yurok is associated with the Gunther Pattern. This artifact assemblage consists of harpoon points, nets, and fish hooks, groundstone net sinkers, Dentalium shell beads, the distinctive Gunther Barbed projectile points, bird bone flutes, abalone (*Haliotis*) ornaments, steatite bowls, antler woodworking wedges, stone mauls, antler spoons, large and miniature ceremonial bifaces, and groundstone zoomorphs. Most of this assemblage is the same as that found throughout the archaeological sites along the King Range coast (excepting steatite bowls, carved elk antler spoons, and groundstone zoomorphs). The assemblage suggests an economy adapted to coastal and riparian resource exploitation, hunting, fishing, and hard seed and acorn processing.

Ethnographic Information

The KRNCA is within the traditional territory of the two Athabaskan speaking groups known today as the Mattole and Sinkyone. These groups, along with the Bear River people, were located between Coast Yuki and Pomo to the south and Wiyot and Yurok to the north and the Wailaki to the east (see Figure 3-4).

[3] Note that the Bear River people are sometimes discussed as a separate group (Baumhoff 1958; Nomland 1935, 1938), but more often are lumped with the Mattole (Elsasser 1978; Kroeber 1925).

The Mattole and Sinkyone acquired some technology as well as cultural and religious traits from neighbors on all sides, adapting what they could to suit their localized needs and were, therefore, considered transitional between Central California and Pacific Northwest Culture Areas (Elsasser 1978 at 191; Fredrickson 1984; Kroeber 1925 at 146). Any knowledge of their lifeways is based on sketchy accounts by early explorers and settlers; interviews with elderly Sinkyone, Mattole, and Bear River people; commonalities with other groups; and archaeological evidence. Not many local Native Americans survived the widespread aggression of early Euroamerican settlers, ranchers, and soldiers—those not killed off were removed to reservations out of the area. A few eventually found their way back home.

Political subdivisions among the northwest Athabaskans consist primarily of what Kroeber called tribelets (Kroeber 1925; Moratto 1984 at 5-6). These were small groups with territory typically limited to a single river drainage or valley. Tribelets often had a single principal village or settlement with strategically placed seasonal camps for resource procurement throughout their territory. The traditional territory of the Mattole was along the coast from the vicinity of Davis Creek south to Spanish Flat. It extended inland perhaps fifteen miles to include the lower and middle portions of the Mattole River drainage, after which one entered Wailaki territory to the east. The Mattole are said to have had two tribelets with some sixty village sites (Baumhoff 1958).

The Bear River people lived between Davis Creek and Fleener Creek, with the Bear River dividing their territory (Nomland 1938). They evidently controlled both banks of the drainage inland some ten miles. No information is recorded about the number of tribelets, but Baumhoff (1958) identified seven village sites (Elsasser 1978 at 191). At least one Bear River descendant and her children presently live at Rohnerville Rancheria in Loleta.

The Sinkyone are typically discussed in terms of a northern and southern group. The Northern group called Lolangkok controlled the upper reaches of the Mattole River and parts of the main fork and south fork of the Eel River but had no territory on the coast. The southern Sinkyone group is called the Shelter Cove people. Their territory included a portion of the coast from Spanish Flat in the north to Usal Creek and Rockport in the south. They had four tribelets and approximately eighteen villages (Nomland 1935).

The natural environment of the Mattole, Sinkyone, and Bear River people centered on the coastal strand, utilizing resources from the ocean with its intertidal rock outcrops and beaches, to grassy or forested hillsides rising steeply from the flats to as much as 4,000 feet, to creeks and rivers emptying into the ocean. Subsistence was based on seasonal rounds of gathering and hunting. Tanoak was the most important source of edible acorns, with major stands growing throughout the upper reaches of the King Range. Hazel nuts, manzanita berries, native blackberry, raspberry, and elderberry were important vegetal resources. Other edible seeds and nuts were harvested along with various grass seeds and berries (pine nuts, buckeye, huckleberry, Oregon grape, salal, wild strawberries, crow berries, and thimbleberries, to name a few). Greens were harvested during spring and summer; acorns, berries, and grasses became available in late summer and fall.

The Mattole and Sinkyone were in a very favorable environment for hunting and fishing. Along the coast, they caught birds, marine mammals, mollusks, seaweed, eels, fish, and the occasional beached whale. Huge runs of salmon, steelhead, and surf fish such as smelt were important marine resources in northern California and the Pacific Northwest. Salmon and steelhead were taken with spears, fish hooks, and nets. During winter, the Mattole built a fishing weir at the mouth of the Mattole River, an

undertaking that required a huge cooperative effort, where men fished while women and children transported, cleaned, smoked, and stored the fish (Fredrickson 1984:480). In late summer and fall, smelt (a small fish similar to sardines) came onto sandy beaches to spawn; these were taken with nets in the shallow water. The entire village camped on the beach along with friends and relatives from inland groups. Fish, shell fish, and whale meat were dried for use during the lean winter months (Fredrickson 1984:480; Kroeber 1925). Large and small game was plentiful in the region. The principal large game species included Columbian black-tailed deer and Roosevelt elk, taken by chasing the animals to the point of exhaustion when they were easier to kill.

The Mattole, Sinkyone, and their neighbors practiced a seasonal migration based on the changing availability of various food resources over the year. In winter, people moved inland along rivers to semi-permanent village sites, often located close to favored fishing spots to take advantage of winter salmon runs. In spring and summer, people would move to the coast or upland to the hills and cooler forests and build small temporary camps where various plant and animal resources would be available. Based on estimates of available food resources, Baumhoff (1958) was able to estimate population and territory size for the Mattole and Sinkyone; see Table 3-3 for a summary that includes Kroeber's (1925) 1910 population estimate while the table itself is adapted from Elsasser (1978).

Table 3-3: Mattole and Sinkyone Population and Territory

GROUP	SQUARE MILES	FISHING MILES	PRE-CONTACT POPULATION[1]	POPULATION DENSITY [1]	1910 POPULATION
Bear River	121	21	1,276	10.5	—
Mattole	219	42	1,200	28.6	—
Lolangkok Sinkyone	254	43	2,076	8.2	100
Shelter Cove Sinkyone	350	67	2,145	6.1	100

[1] Per square mile

Source: Elsasser (1978).

Like virtually all California tribes, the Mattole and Sinkyone were skilled in basketry. Their plain twined technique used hazel, willow, or *Ceonothus* sticks as framework with conifer roots and bear grass to weave as an overlay then wove in patterns of bear grass, maidenhair fern, giant fern, or decorative items such as porcupine quills. Fern dye was made from red alder bark (Elsasser 1978 at 200) while porcupine quills were dyed with Oregon grape roots. A variety of shapes were known, including twined, truncated conical hopper baskets for processing acorns on shallow, slab mortars, conical burden baskets and hats, eeling traps, seed beaters, and small bowls for serving mush.

Re-curved bows and self bows with simple wood arrows were made and used by the Sinkyone and Mattole, as well as with a two-piece arrowshaft smoother. Some arrows may have been used untipped, but were usually tipped with a variety of projectile points including Gunther Barbed, McKee Unifaces, corner-notched, side-notched, or denticulated barbed bifacial points. Wood planks for structures were made from driftwood logs by splitting them with elk horn wedges driven by shaped stone mauls. Shaped conical and flanged groundstone pestles were used. Mush was cooked in baskets using hot stones handled with two stick tongs. Bone awls were used for sewing and the Sinkyone are reported to have had

bone needles with eyes (Elsasser 1978 at 202). Fire was started by means of hand drills of buckeye or willow on willow or alder fire hearths. Dry moss was used as tinder (Elsasser 1978 at 199).

Sinkyone and Mattole people actively managed local resources for a variety of uses. In particular, fire, whether caused by lightning strikes or man-made, had profound effects on the landscape.[4] Applied to oak woodland habitats in late summer and early fall, fire killed acorn worms that could have infested the next year's crop (Raphael 1974) and cleared the understory of brush, making it easier to gather healthy acorns ready for harvest later in the season. Burning grassy areas and prairies also helped ensure abundant growth the following season, both for food seed and as open grassland for deer and elk habitat, and helped maintain bulbs, corms, and tubers used as food.

Most storage, cooking, and food processing implements, as well as nets, snares, and weirs used for fishing and hunting, were woven of plant material. The variety of plants used to construct baskets is extensive: willow, hazel, huckleberry, beargrass, wild iris, sugar pine roots, ferns, vines, grass stalks, and rhizomes from many different forbs, grasses, sedges, and rushes (BLM 1995). Collecting these items required active manipulation of each plant source to produce quality construction materials, usually young growth or shoots that were strong yet still pliable enough to weave. Techniques used to produce the desired materials included burning, pruning, and coppicing shrubs to encourage sprouting of straight shoots, as well as burning and pruning grasses to produce long straight stalks and to remove old plant material. These uses shaped the resources of the King Range to reflect the residents' cultural preferences and values, and many of these impacts on the landscape are still visible in the present-day, usually localized in areas of consistent, long-term (although often seasonal) use and habitation.

3.3.3.2 Euro-American Settlement and Development

Spanish ships may have stopped briefly along the North Coast as far back as the 1570s; Vizcaino, a Spanish explorer of the 1600s is credited with naming the point at Shelter Cove "Punta Del Gada." The first documented explorations from sea, however, took place in the early 1800s with Russian, American, and British fur trappers and traders searching particularly for sea otter. The first overland explorer was Jedediah Smith who visited the area in 1828, but Humboldt Bay was not truly "discovered" until the Josiah Gregg party made their way from the gold fields of Shasta and Redding onto the North Spit in 1849, looking for the Trinity River's outlet to the Pacific Ocean. The North Coast's timber industry sprang up almost immediately in 1851, initially supplying lumber to the gold mines. By 1880, the area's valuable redwood lumber was being shipped to all parts of the world and timber dominated the regional economy.

The immediate vicinity of the King Range, however, was not settled as densely as other parts of the North Coast region, and was never dominated by a single industry. The organized timber industry largely passed it by, due to the lack of redwood forests and the relative inaccessibility. Settlers first entered the Shelter Cove area to the south (Machi 1984) and the vicinity of present day Petrolia along the Mattole River to the north (Clark 1982; Eastman 1995) in the early 1850s. Many early ranchers raised cattle as well as sheep for mutton and wool to supply the Gold Rush market. These settlers often burned their

[4] Recent research suggests that the majority of California's coastal prairie habitat was primarily anthropogenic in origin, from local tribes burning areas regularly; after European settlement, many of these areas quickly reverted to woody vegetation (Bicknell 1992).

lands repeatedly to enhance livestock forage and maintain existing openings, which echoed the earlier Indian practices of burning. Early settlers cut timber from their lands for their own use, grew their own produce, and often approached something like self-sufficiency, with a strong emphasis on their own independence (Machi 1984; Raphael 1974).

Other uses of the landscape quickly developed as well; the local dairy industry began with a creamery in Petrolia, mostly producing butter; later the dairy industry became more concentrated around Ferndale to the north. An orchard industry was started by an entrepreneur named Albert Etter in 1861, creating the small town of Ettersburg. Remnants of old orchards can still be found on homestead ruins throughout the King Range. Oil was also discovered in the Mattole region, giving Petrolia its distinctive name, and at one time supported as many as fifty companies prospecting in the area, but the oil boom was short-lived as deposits proved unprofitable to exploit. Up around Eureka and locally around Shelter Cove, fishing became a major economic enterprise by the 1880s, particularly for salmon.

Bark was stripped from area tanoaks and used to produce tannins for the leather industry.

Around the turn of the century a tanbark industry emerged with one center at Briceland, another at Bear Harbor in the Sinkyone Wilderness, and a third at the mouth of the Mattole River. Bark was stripped from tanoak trees and used to produce tannins for processing leather. Wharfs and rail systems for shipping tanbark to the San Francisco market were built by Calvin Stewart's companies at Bear Harbor and at the Mattole River (Mattole Lumber Company) with offices in Petrolia. Shipping facilities at Shelter Cove focused on fishing and exporting wool but shipped tanbark from Briceland as well. However, the tanbark industry dwindled by 1940 after a cheaper and faster method of tanning leather was invented. This had a distinct effect on local populations; in 1900 there were 675 people living in the Mattole, but by 1940 their numbers had dwindled by half (Roscoe 1977).

3.3.3.3 Recent Regional History

The region's timber industry shifted dramatically around World War II, when mechanized logging, using bulldozers or "Cats," became common practice, and Douglas-fir lumber jumped in demand to meet the post-war national housing boom (Clawson 1979). Huge areas of Douglas-fir were cut in the 1940s and

'50s to meet the market demand, even in areas like the King Range that were formerly considered inaccessible but could now be harvested using mechanized equipment. Unlike the earlier industrialized redwood boom, at the outset most old-growth Douglas-fir was owned by small landholders, cut using independent logging crews, and contracted to independently-owned mills. The influx of loggers created another economic boom for the area; Humboldt County was the largest timber producer in the state in 1940, and from 1940-60 the county's population more than doubled (Criley 2003). Even the tiny town of Whitethorn had five mills operating at one time and a population close to a thousand people (Raphael 1974, at 119).[5]

This had a noticeable effect on local land markets, as formerly worthless forested lands were suddenly considered valuable, and hence triggered higher property taxes on both the land and the standing timber itself (Vaux 1955).[6] To meet the additional tax burden, ranchers often had to sell their timber rights, or their extra acres, some of which were then subdivided for home sites. A 1956 survey of fir sellers found that two-thirds of non-industrial owners sold timber to get cash or to convert to grazing use (Vaux and Hofsted 1956). This process resulted in large swathes of clear-cut or "high-graded" (taking the largest trees and leaving smaller ones behind) land in a multitude of ownerships, with little attention given to reseeding or long-term sustainability (Pine 1956). The availability of timber also drew larger firms into the area, and lumber production reached an all-time peak in Humboldt County in 1959 (Criley 2003). Once the timber was gone, some ranchers maintained the grass that grew in place of the trees by burning. The pastures generally did not last long, though; many cut-over Douglas-fir forests grew back mostly in tanoak, which is now considered a weed tree.

This intensive and accelerated harvesting of Douglas-fir left an extensive legacy on the landscape. A study in 1968 showed that coverage by hardwoods, mainly tanoak, had increased significantly as a result of timber harvest practices (Oswald 1968).[7] In addition, erosion from poorly-constructed logging roads and the lack of reforestation contributed to greatly increased sediment loads in the region's rivers, leaving streams shallower, warmer, and more prone to flooding (Bodin, Brock et al. 1982; Raphael 1974). This condition proved disastrous in the winters of 1955 and 1964, when heavy rains caused immense flooding along the entire North Coast. Combined with river diversion projects and an increasingly active fishing industry, the eroded character of cut-over lands also had devastating effects on local anadromous fish populations, with salmon and steelhead runs shrinking to roughly one-third their historic sizes by the 1960s.

The timber boom of the 1940s and '50s had other effects as well. Between 1965 and 1982 the amount of agricultural and forest land in Humboldt County dropped by 87,000 acres as lands were subdivided into 20- or 80-acre parcels (Hight 2000).[8] The buyers were mostly "back-to-the-landers," people from the counter-culture or "hippie" movements of urban California, often buying lands in poor condition for

[5] Raphael notes that many of the newcomers were "Okies—dispossessed farmers from the Dust Bowl who looked for jobs wherever they could find them." This caused some tension with the older, more established settlers, who saw the newcomers as economic competitors.

[6] Tax laws changed in 1946 to apply to total acreage, regardless of whether land was in timber or grassland, and so the value of the standing timber was then calculated as part of the overall value of the property (BLM 1996).

[7] Of cutover areas in Humboldt County, hardwood species covered 53 percent of the area, compared to only 28 percent of areas where no cutting had occurred. Areas that had been "high-graded" had hardwood cover as high as 60 percent.

[8] Note this includes both parcels sold to "back-to-landers" plus the subdivision of Shelter Cove.

cheap prices (Anders 1990; Raphael 1974).[9] This back-to-the-land movement was centered in the southern part of Humboldt County; from 1970-80, the population of the Garberville census tract nearly doubled (Criley 2003). Researcher Jentri Anders describes the motivation of these self-titled "new settlers" as a "desire to relearn how to live on the land in a way that would meet minimal human needs without causing permanent damage to the natural environment" (BLM 1996). Many built their own homes, chopped their own wood, and grew their own food in an attempt to be as self-sufficient as possible. Not everyone who tried it, stayed—the winters in particular can be harsh, with near-constant rain and cold—but those who stuck it out were dedicated to their particular lifestyle and the philosophies that informed it.[10] In particular, many of them espoused an early ecological consciousness, forming local grassroots organizations like the Mattole Restoration Council which focuses on fisheries health and watershed restoration (House 1999).

3.3.4 Current-day Social and Cultural Context

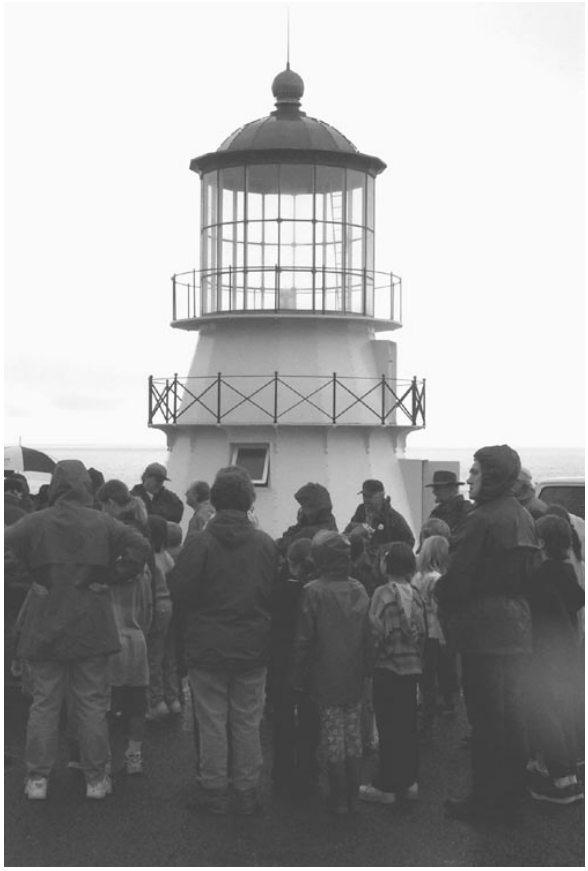
In the King Range and adjacent areas, there are various communities of place and interest that interact in a variety of complex ways, both among one another and with the BLM. Such sociocultural entities can be tightly circumscribed geographically, in the case of small villages, or widely distributed over the landscape as in the logging or ranching community. Some of these groups obtain a sense of community from their physical proximity and frequent interactions; others get it from their shared world view, common interests, or experiences. This section describes both communities of place, the local towns surrounding the King Range, as well as communities of interest: the Native American community, the ranching community, and so on. In an attempt to present reasonably systematic information, each group will be briefly described in terms of similar attributes: demographic composition, geography, sense of identity, sense of place, key values, lifestyle, community cohesive factors, orientation toward the natural environment and the ways the community views and interacts with the KRNCA. Time and space constraints will limit the discussion to major groups.

3.3.4.1 Communities of Place

As described earlier, a number of small communities are located just outside the KRNCA boundary, starting with Petrolia to the north, and Honeydew, Ettersburg, Whale Gulch, and Whitethorn/Thorn Junction dotted along the eastern edge. In contrast, the residential development at Shelter Cove is located on the coast, surrounded by the ocean on one side and the King Range on the other. The communities of Garberville and Redway lie further inland along the Highway 101 corridor to the east of Thorn Junction, while Ferndale is farther north of Petrolia (see Figure 3-3). These communities share a powerful identification with the area as a distinct geographic and cultural region, almost as a separate part of California—referred to alternately as the North Coast, the Lost Coast, or "behind the redwood curtain."

[9] Anders (1990) asserts that the reason most of the "back-to-the-landers" could afford to buy the subdivided tracts is precisely because the land was in too poor of condition to use for anything else.

[10] Raphael notes that "Most of the old-time residents feel threatened by the most recent invasion of newcomers, just as they did by the arrival of the Okies in the late '30s." However, he makes the distinction that hippies were not a threat economically; in contrast, they brought more money into the local economy. The old-time residents often disliked them more for social reasons, not being comfortable with the counter-culture aspects of their lifestyles (Raphael 1974, at 169).



The Cape Mendocino Lighthouse, located on BLM lands in Mal Coombs Park, has become a community symbol for Shelter Cove.

There is a split between the communities closest to the King Range in terms of their connection to the KRNCA and sense of community character. On the coast, Shelter Cove has more of a tourism focus and hence a more direct economic relationship to the KRNCA. In contrast, the Mattole Valley communities of Whitethorn, Petrolia, and Honeydew seem to base much of their community identity to their isolation, and are not always receptive to outsiders. A number of people from these communities expressed concerns during Scoping about the possible effects of this plan update on local community character, not wanting to become "gateways" to the KRNCA.

Unlike the towns that are closest to the King Range, Garberville and Redway are more closely linked to the Highway 101 corridor, with its north-south flow of traffic. Most of the tourists who pass through are focused on Redwoods State Park; the King Range is a substantial detour off the 101 corridor, and so gets fewer visitors who are just exploring off the main highway. Ferndale is similarly more tourism oriented, as well as a center of the remaining dairy industry in Humboldt County; its scenic main street, with a number of well-maintained Victorian houses and storefronts, has been used as the backdrop for several movies.

The KRNCA has a high degree of engagement with adjacent communities, particularly in the context of ongoing cooperative relationships/involvements with local non-profit groups, who are actively engaged in environmental restoration and resource management issues. The relationship between the BLM and the communities for the most part is a positive one. In particular, the Mattole watershed and its associated communities seem to be of a manageable scale and size for community organizing and involvement, which over the years has gradually come to foster a willingness to accommodate different perspectives among neighbors (House 1999).

3.3.4.2 Communities of Interest

Native Americans

As mentioned previously, most of the indigenous peoples from what is now the KRNCA and the immediate surroundings succumbed to disease or died at the hands of Euro-American settlers in the 1850s. Most of the few who survived this time were placed on reservations. Small remnant populations reside in urban areas such as Eureka and on rancherias and reservations scattered throughout the region (Figure 3-5).

Regional reservations and rancherias in the vicinity of the King Range area are Big Lagoon Rancheria some 70 miles north of the KRNCA; Trinidad Rancheria and Hoopa Valley Reservation, both approximately 60 miles north; Blue Lake Rancheria approximately 50 miles north; Table Bluff Reservation approximately 30 miles north; Bear River Band of Rohnerville Rancheria approximately 25 miles north; Round Valley Indian Reservation some 25 miles southeast; Laytonville Rancheria approximately 30 miles southeast; and Sherwood Rancheria some 40 miles southeast. The Hoopa Valley and Round Valley Reservations are among the largest reservations in California, while the others are quite small.

The Bear River Band is enrolled on the Rohnerville Rancheria. The total enrollment was estimated at 12,862 in 1999 by the U.S. Department of Health and Human Services, but most do not live on the Rancheria. This group has a special relationship to the KRNCA as the closest federally recognized tribe, and consults with the BLM on a regular basis on a variety of management issues, including NAGPRA issues.[11] Several persons on the Rohnerville Rancheria can trace their families to the Mattole area, and there are still a few Indian allotments belonging to Mattole descendants near Prosper Ridge near the north end of the KRNCA.

There is a distinct connection with the land among Native people that forms part of their sense of identity. Among the Sinkyone and Mattole, village and place names were often synonymous; a special bond to the land was evident. Although they no longer live in the King Range as a functioning, independent society, local natives retain traditional ties to the area. Key values among the Native Americans of the region include a sense of loss over the massive transformations that have engulfed the natural world, along with a desire to maintain connections with the local landscape, particular resources within that landscape, and a continuity of use in the context of specific traditional or group practices. A number of writers have noted that the prevailing feeling of local Native Americans toward destruction of natural resources by non-Natives is more often sadness than anger, as exemplified in the following quote:

> One of the three local Indians to survive into the days of the tanbark boom told of a visit from Nagaicho, the Sinkyone Creator. Nagaicho had looked at the area around Briceland and remarked sadly, 'It looks just like my people lying around, lying around with all their skin cut off' (Raphael 1974:92).

While there is little substantial data, it would appear likely that the lifestyle of surviving Sinkyone and Mattole is similar to other people of moderate means in the area (Smith 2003). Trips to the beach are popular for picnics, beachcombing, and general recreation. Fishing and hunting are also popular. The Bear River people view the KRNCA as a valuable natural area (Smith 2003). Some Native people use the area for traditional collecting of acorns and other food plants, medicinal herbs, and basketry and other craft materials.

Contemporary Native American use of natural resources in the King Range also continues through cooperative programs with the BLM in addition to individual or informal small group use. In particular,

[11] Native American Graves Protection and Repatriation Act (NAGPRA) affirms the rights of Indian tribes and Native Hawaiian entities to custody of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony with which they are culturally affiliated. It directs federal agencies and museums (that is, museums receiving federal funding) to inventory their collections for these items and to attempt to identify their cultural affiliation. It also directs the agencies and museums to return these items to the affiliated Indian tribes or Native Hawaiians that request them.

the KRNCA represents a valuable set of resources that can be accessed by even urban Native Americans in a way that is different from other parts of the region that are either in private hands or within the sphere of influence of geographically established tribal entities. It provides land and resources for those who have none of their own, which may allow some to continue cultural practices and uses that otherwise would be lost.

Ranchers and Similar Working Landowners

As discussed in Section 3.3.3.2, ranching began in the Humboldt Bay area during the Gold Rush era. By the early twentieth century there were considerable numbers of small, relatively self-sufficient homesteads in the KRNCA vicinity; virtually all of these ran some cattle and/or sheep; some ran a few hundred head (Raphael 1974:102).[12] These homesteads did not have electricity, and lacked the practical means for preserving hundreds of pounds of beef, so typically they did not butcher, but rather drove cattle to markets. Many of the earliest homesteads are no longer functioning farms; some have been abandoned, or have been subdivided into smaller parcels with second homes, or homes for people who commute to wage labor elsewhere. Most ranchers currently make a living harvesting a variety of resources from their lands, not just cattle. The experience of the French family of Ettersburg may be typical (French 2002:3):

> Until the mid-1980s we raised mostly sheep, but with the ideas prevalent today, pressure to leave the wild animals alone and have little or no predator controls, raising sheep is no longer feasible. Uncontrolled dogs are almost a bigger problem. We now raise more cattle, which only bring in enough money to pay property taxes. The rest of the ranch income is from timber operations. In order to keep this property, ranch income has always had to be supplemented by other work... The pressures on ranchers today make it ever harder to earn a living off the land. We would like to see this property that took so much effort to put together, be able to remain a large land holding for future generations. Open land tracts are becoming more scarce and we feel that this would be a great loss to the environment as well as to our family.

The sense of place and identity with the land are very strong among the remaining working landowners. Many feel under pressure by the increased environmental regulation on the one hand and the increasing tax burdens and other financial pressures to sell off and subdivide their land—a prospect virtually all ranchers are very reluctant to do, as their land usually has, like the French's, been in their family for many generations. At a regional scale, many worry about too much productive agricultural land being converted to either subdivisions of public ownership.

"Back to Landers" or "New Settlers"

As described earlier, in the late 1960s a substantial number of "back to the landers" moved into the King Range area, buying cut-over lands that had recently been subdivided. This group came to call themselves "new settlers," in contrast to older, more established families. They were often young and interested in

[12] Even where there has been a relative continuity of use, area ranching has seen a number of trends of change over time. Prior to the tanbark boom and bust in the early twentieth century, almost all homesteaders and ranchers kept hogs. Many produced hams and bacon for income. The hogs thrived on acorns, but raising hogs became less viable after many tanoak trees were harvested for their tannin. Sheep ranching then became the economic mainstay of the area. Later, cattle would become relatively more important than sheep, due in part to changes in regulations regarding predator control that made raising sheep problematic.

the counter-culture movement. Importantly, ideas about their relationship to the surrounding landscape and environment was often the primary purpose for moving to the area, as part of a powerful motivation to get away from urban life, simplifying their existence, and having a much more direct relationship with the natural world. Many of the initial group of "new settlers" have stayed and established roots of their own, and today are generally involved with local veterans associations and other civic activities, including local environmental organizations (House 1999).

Initially, the old and new settlers clashed over ideas and lifestyles. However, both groups highly value independence and personal freedom; neither wants anyone looking over their shoulder or telling them how to live their lives. After living in close proximity for 30-40 years, the boundaries between these communities are increasingly blurred; their kids attend school together, get married, and have kids of their own, intermingling their backgrounds and values. Some "new settlers" have taken up ranching, while some "old settlers" have adopted ideas or practices of the back-to-the-landers. In part due to their 20-plus year history of working together on salmon restoration efforts, residents of the Mattole Valley have made great strides in terms of coexisting and working together to solve issues of mutual interest.

Once thought of solely as an activity of the "new settlers," the marijuana culture and underground economy of northwest California has crossed social and political boundaries as the economics of ranching and logging have changed, much as old settler and new settler cultures have intermixed. The marijuana economy is the current "boom" phase of a historic boom and bust cycle characteristic of the rural North Coast, and is as much an element of local cultural identity as the logging, ranching, and fishing industries. Whatever its actual contribution to the economy of the region, the marijuana culture and economy plays a significant role in relationships among the "communities of interest" that interact around the KRNCA. Although not the overriding factor in all relationships within these communities of interest, the marijuana culture and economy does exist as a major socio-economic factor in the region.

Tourism Business Community

The major tourist communities in the vicinity of the King Range are Ferndale (30 miles north), Garberville/Redway 20 miles east along the U.S. 101 Corridor, and Shelter Cove, a subdivision along the southern coast of the KRNCA. These communities actively promote themselves as tourist destinations and host numerous festivals, concerts, and other events to attract visitors. Shelter Cove offers bed-and-breakfast lodging, restaurants, sport fishing operations, beaches, and campgrounds, and is the main commercial tourism services provider immediately adjacent to the KRNCA. Other communities around the perimeter of the KRNCA (e.g., Whitethorn, Briceland, Ettersburg, Honeydew, and Petrolia) lack large-scale tourism oriented services, although general stores and small lodging operations are partially dependent on area visitors.

The main route into Shelter Cove is on Highway 101 through Garberville, then west on Briceland-Thorn Road through Redway, Briceland, and Thorn Junction. While there is little formal data on the views of residents of these small communities toward tourists, it is clear that tensions exist among residents of the smaller communities, based on comments from public scoping and in writings on the area. The very qualities that make the Lost Coast attractive to residents also bring visitors to the area. The towering redwoods, pristine beaches, majestic mountain scenery, and slow-paced rural character are all very attractive attributes. On the positive side, local residents are able to enjoy world-class natural features and back-yard public land amenities such as hiking trails, campgrounds, and scenic drives that are

supported by state and federal funds and that many visitors must travel for hundreds or thousands of miles to experience. On the negative side, residents must endure traffic, loss of privacy, trespass, and other problems associated with visitor destination areas. There is a great deal of local concern and consensus about protecting the area's qualities from overdevelopment and overuse, and retaining the region's character and sense of place as "the Lost Coast." The specifics on what constitutes overdevelopment or overuse are harder to find agreement upon.

Southern Humboldt County depends on tourism as a major component of the area economy.

Non-Tourist Business Community

There are also some widely scattered small retail businesses in the small communities surrounding the KRNCA, in and around such places as Whitethorn, Honeydew, and Petrolia. Each of these small settlements has a small general store which provides groceries and other supplies to local residents and visitors. The King Range area also hosts many small cottage industries and art studios, ranging from wineries to organic farms to candle makers to silk screening to potters. Some of these businesses are partly dependent on area tourists, but in general they market products outside of the immediate area.

3.3.5 Minority and Low-Income Populations

3.3.5.1 Background and Applicable Regulatory Guidance

"Environmental justice" refers to the fair and equitable treatment of individuals regardless of race ethnicity, or income level, in the development and implementation of environmental management policies and actions. In February 1994, President Clinton issued Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations." The objective of this EO is to require each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health

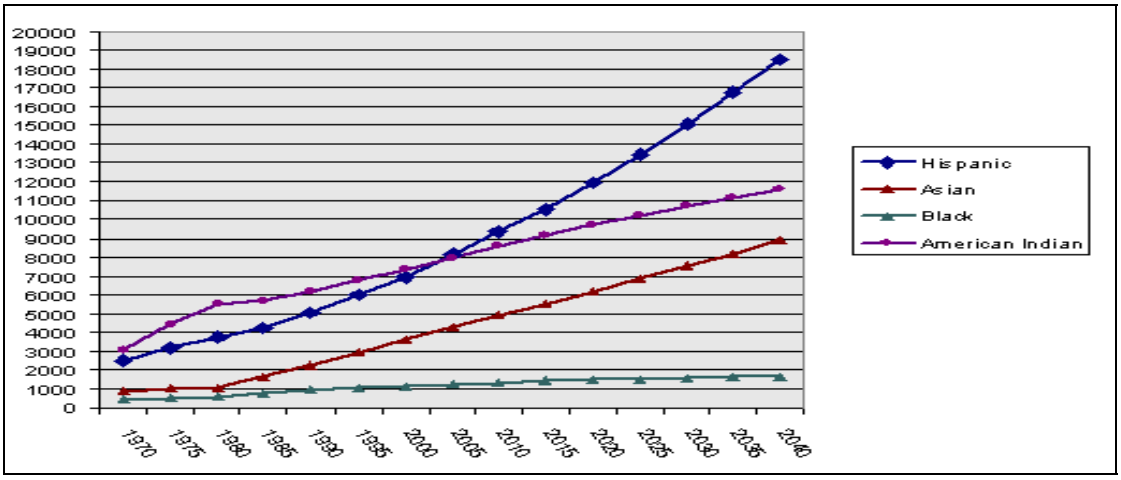
or environmental effects of its programs, policies, and activities on minority populations and low income populations (Council on Environmental Quality 1997).

The EO was accompanied by a memorandum which emphasized the importance of the National Environmental Policy Act (NEPA) as a means for implementing environmental justice principles. The memorandum directs federal agencies to analyze the environmental effects, including human health, social, and economic concerns, of their actions where such analysis is required by NEPA.

3.3.5.2 Regional Context

Data and projections from the CA Department of Finance show that minority populations in Humboldt County have been increasing since the KRNCA was established in 1970, and will continue to grow over the life of the plan (Figure 3-6). However, minority populations still make up only 15 percent of the county population compared to over 50 percent for the state as a whole. Humboldt County has been impacted greatly by the loss of jobs in the timber industry, and Census 2000 data for poverty levels show that low-income populations make up a larger proportion of the county population than the state as a whole (19.5 percent for Humboldt County vs. 14.2 percent for California).

FIGURE 3-6: HUMBOLDT COUNTY MINORITY POPULATION FROM 1970 PROJECTED TO 2040



Source: CA Department of Finance Table, Humboldt County Planning Division Web Site (www.co.humboldt.ca.us/planning)

3.3.5.3 Use of the KRNCA by Low Income and Minority Populations

Very limited data is available on the ethnicity of users of KRNCA resources and programs. A visitor use study completed in the summer of 1990 indicated that very few minority groups accessed the KRNCA for outdoor recreation use. At that time 96 percent of KRNCA recreation visitors were white, followed by 2.3 percent Asian and 0.5 percent Hispanic and 0.5 percent Native American. No detailed income data was collected as part of the study. A more recent survey (2003), focused on the Lost Coast Trail, showed a slight increase in minority population use of the area. This survey breakdown was as follows: 87.8 percent white, 4.3 percent Asian, 4.0 percent Native American, 3.2 percent Hispanic, 1.8 percent Hawaiian, and 1.1 percent black.

Among local minority populations, Southeast Asian immigrants are known to use KRNCA regularly for hunting and special forest products gathering (the 1990 and 2003 visitor surveys did not reflect these users since they tend to access the KRNCA primarily in the late fall months). These users come primarily from Eureka, but also from Central Valley communities such as Sacramento and Modesto. Over 90 percent of the commercial mushroom permittees in the KRNCA have Southeast Asian surnames.

Political autonomy and social self-reliance are central to the Hmong sense of ethnic identity, stemming in part from their recent history of persecution and forced migration. Based on this context, efforts made by BLM to incorporate Hmong input into land use planning may be met with reluctance or hesitation, in part due to residual mistrust of government. Nevertheless, this does not mean that Hmong residents do not want to be recognized as a unique social group.

On the contrary, Hmong refugees have a strong will to survive as a distinct people (Chai 1999:33). Collectivism is one of the most important values in traditional Hmong and Laotian communities (Chai 1999:40). Unfortunately, programs designed to help integrate Hmong refugees into mainstream American culture and provide access to social services were poorly developed. As a result, opportunities for education and employment for refugee families are limited and many of these families rely on public assistance. Furthermore, there is very little existing community framework in northwestern California for Hmong residents to become active in local decision-making, which has marginalized their needs.

In summary, the experience of the Laotian and Hmong cultures as refugees has resulted in their mistrust of government, which has led to limited communication of their needs and preferences for public land management. In the past, the BLM has had very little direct contact with the Hmong/Laotian communities other than the issuance of permits and intermittent field contact for permit compliance. An effort has been initiated through local community organizations to obtain input from these groups for the current planning process.

3.3.5.4 Existing BLM Participation in Economic Assistance Programs

The Northwest Economic Adjustment Initiative was designed in response to the Northwest Forest Plan to assist workers, businesses, tribes, and communities in Washington, Oregon, and northern California affected by reductions in timber harvests. The Jobs-in-the-Woods component of this initiative improves ecosystem health while at the same time providing economic assistance to local communities.

Since 1995, the Arcata Field Office has developed cooperative agreements with local non-profit organizations as part of the Jobs-in-the-Woods program. These include stewardship projects for watershed restoration activities, trail maintenance, and restoration planning. The Jobs-in-the-Woods program has been successful in providing employment in economically depressed regions and employment sectors of the county.

From 1994-2003 the BLM has provided 1.6 million dollars in funding, primarily through the Jobs-in-the-Woods program, to accomplish restoration, interpretive and other resource management projects in the KRNCA. Much of the watershed restoration work in the King Range has been completed through this program. However, no data is available to determine specific impacts to low income or minority populations.

3.3.6 Economic Context

This section describes existing economic conditions surrounding the KRNCA to provide a baseline for assessing the potential impacts of the RMP alternatives. For example, the BLM can affect local employment and income conditions not only by changing the way it manages natural resources or grazing allotments, but also by helping fund or create new vegetation management or restoration-related programs or projects. The construction of new recreation trails or facilities, road maintenance and other activities also can affect some of the socioeconomic conditions described in this section. The BLM can also influence local economic conditions indirectly by pursuing new management strategies that alter future visitation levels, thus affecting total future spending by recreationists and other visitors. Demographics and selected economic indicators of social well-being are also presented to help provide context and put local conditions in perspective relative to statewide conditions.

3.3.6.1 Demographic and Economic Indicators of Social Well-Being

Population

While Shelter Cove has had some notable population growth in recent years, population growth in other local communities has been low to moderate. However, regional and statewide populations are expected to continue to grow at a substantial rate, resulting in increasing demand for the diverse and unique attributes of the Lost Coast and King Range. The visitor base for KRNCA is primarily non-locals, with many visitors from the Sacramento Valley and San Francisco Bay Area; approximately 75 percent of Lost Coast Trail visitors travel more than 100 miles to visit the KRNCA (Martin and Widner 1998; BLM Trailhead Register Data). As a result, population estimates presented in this section include the local study area (Humboldt County), counties in the greater Sacramento region (Sacramento and San Joaquin Counties), and counties in the Bay-Delta region (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties). Given the important influence future population growth has on KRNCA visitation and resources, BLM must carefully plan for the population projections summarized below.

Table 3-4 shows historic population growth in the region and the State (there are no incorporated cities in the local study area, and all local communities are included in data provided at the county level). The counties in the greater Sacramento and Bay-Delta regions are collectively referred to as urban northern California. Table 3-5 presents population projections through the year 2040.

In total, the current (2002) population in Humboldt County is approximately 127,700 people. Humboldt County has a high percentage of its population living in unincorporated areas, roughly 53 percent in 2000 (CDOF 2002a). An additional 8.8 million people live in urban northern California and 35 million people in the State as a whole.

Historically, population shifts in the North Coast have been closely tied to changes in the timber industry, but since 1970 or so this relationship has become more complex due to the diversifying economy of the region. From 1970 to 2002, population growth in Humboldt County (28 percent) lagged behind urban northern California (59 percent) and the State (75.4 percent). This pattern also holds in recent years; between 2000 and 2002, population growth in Humboldt County (0.9 percent) was approximately less than one-third of urban northern California (3.0 percent) and the State (3.4 percent). Although

population growth in Humboldt County has been relatively low, it is apparent the population base served by the KRNCA has grown considerably over the past three decades.

Table 3-4: Historic and Current Population Levels [1]

AREA	1970	1980	1990	2000	2002
Humboldt County	99,692 (—)	108,525 (8.9%)	119,118 (9.8%)	126,518 (6.2%)	127,676 (0.9%)
Urban Northern CA [2]	5,556,022 (—)	6,310,482 (13.6%)	7,541,994 (19.5%)	8,570,857 (13.6%)	8,829,076 (3.0%)
State of CA	19,971,069 (—)	23,668,562 (18.5%)	29,758,213 (25.7%)	33,871,648 (13.8%)	35,037,196 (3.4%)

[1] Percentage increases are in parentheses and represent total percentage change from previous period.
[2] Represents Alameda, Contra Costa, Marin, Napa, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, and Sonoma counties
Source: California Department of Finance 2002a, 2002b, 2003a, 2003b

Table 3-5: Population Projections [1]

AREA	2010	2020	2030	2040
Humboldt County	135,602 (6.2%)	141,092 (4.1%)	145,099 (2.8%)	146,933 (1.3%)
Urban Nor. CA [2]	9,887,674 (12.0%)	10,829,950 (9.5%)	11,872,584 (9.6%)	12,879,012 (8.5%)
State of CA	39,957,616 (14.0%)	45,448,627 (13.7%)	51,868,655 (14.1%)	58,731,006 (13.2%)

[1] Percentage increases are in parentheses and represent total percentage change from previous period. For the year 2010, it represents change from 2002.
[2] Represents Alameda, Contra Costa, Marin, Napa, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, and Sonoma counties.
Source: California Department of Finance 1998

Future population growth in Humboldt County is expected to remain moderate, with just over 20,000 new residents expected through 2040 relative to year 2000 conditions; this represents a population increase of 16 percent over the next forty years. During this same period, population growth in urban northern California and the State is projected to be 50 percent and 73 percent, respectively. These data suggests that the immediate region is not likely to experience significant population growth, but that the KRNCA will receive increased use pressure from population growth elsewhere in northern California.

In addition, the demographics of new migrants to the North Coast area have been changing over the past two decades. Historically the area had drawn mostly labor migrants in search of work, particularly in the booming timber industry, but since 1980 in-migration has included more retirees and "equity migrants," people who sold homes in the skyrocketing real estate markets of the Bay Area, Los Angeles and San Diego during the 1980s and '90s and bought ocean-view homes along the North Coast at prices substantially lower than their previous homes' values but still higher than most locals can afford. The local housing prices are still relatively low (the median home price in Humboldt County in 2001 was $142,000, compared to a statewide median of $240,000). However, area home prices have increased

dramatically in recent years, climbing 73% between 1999 and 2003; by July 2003 the median home price had risen to $215,000, (CICG data, HSU Web Site).

Unemployment

Unemployment levels within a particular area are commonly used as an indicator of the strength of a local economy and social well-being of its population. Table 3-6 presents the size of the labor force and average annual unemployment rates in the local study area, with the State of California included for comparative purposes.

Table 3-6: Unemployment Rates [1]

AREA	1990		2000		2001	
	LABOR FORCE [2]	UNEMPLOYMENT RATE	LABOR FORCE [2]	UNEMPLOYMENT RATE	LABOR FORCE [2]	UNEMPLOYMENT RATE
Humboldt County	56,500	7.9	60,100	6.3	59,100	6.1
State of CA	--	5.8	--	4.9	--	5.3

[1] March 2001 Benchmark

[2] Represents civilian labor force

Source: California Employment Development Department 2003

In 2001, Humboldt County had an average unemployment rate of 6.1 percent; which is higher than the statewide average (5.3 percent). Unemployment in the region has been steady in recent years, holding at just over 6 percent since 2000, which is considerably lower than historical (1980-1990) conditions, when unemployment sometimes reached as high as 13 percent (CIGC data).

Per-Capita Personal Income

Another indicator of social well-being is per-capita personal income.[13] Table 3-7 shows per-capita personal income (i.e., total personal income divided by population) in the local study area and the State since 1970.

Table 3-7: Per-Capita Personal Income [1]

AREA	1970	1980	1990	2000
Humboldt County	$17,930	$20,720	$21,632	$23,237
State of CA	$21,370	$25,138	$28,830	$32,149

[1] Constant dollars (2000); adjusted using CPI inflation factor

Source: Bureau of Economic Analysis 2003

[13] Personal income is defined as the income that is received by persons from participating in production, from both government and business transfer payments, and from government interest (which is treated like a transfer payment); it is calculated as the sum of wage and salary disbursements, other labor income, proprietors' income with inventory valuation and capital consumption adjustments, rental income of persons with capital consumption adjustment, personal dividend and interest income, and transfer payments to persons, less personal contributions for social insurance (BEA 2003).

Per-capita personal income in Humboldt County has ranged from approximately $18,000 in 1970 to just over $23,000 in 2000. However, local income levels have historically been consistently lower than statewide levels. In 2000, per-capita personal income in Humboldt County was 38 percent lower than in the State. Growth in per-capita personal income between 1970 and 2000 in Humboldt County has been roughly 30 percent; this is less than the growth rate in the State (50 percent) over this same 30-year period.

Poverty Rates

An area's poverty rate is an estimate of the percentage of the area's total population living at or below the poverty threshold established by the U.S. Census Bureau. Table 3-8 presents poverty rates in the local study area, with statewide figures included for comparative purposes.

Table 3-8: Poverty Rates [1]

AREA	1989	1999
Humboldt County	17.6%	19.5%
State of CA	12.5%	14.2%

[1] Represents percentage of all people in poverty relative to entire population.
Source: U.S. Department of Agriculture 2003

Poverty rates increased in the local study area and the State between 1989 and 1999. The poverty rate in Humboldt County in 1999 was 19.5 percent, up from 17.6 percent in 1989, and has been consistently higher than statewide rates over time.

3.3.6.2 Regional Economic Base

There are two primary components of the local and regional economic base that are expected to be affected by the management alternatives under consideration—earnings/income and employment. This section presents an overview of the regional economy, including data on earnings/income and employment for Humboldt County.

Total Personal Income and Earnings

As described above, per-capita personal income serves as an indicator of social well-being. Total personal income measures the total income generated throughout an entire area, and could be directly or indirectly affected by changes in the management of KRNCA. Table 3-9 shows absolute levels of total personal income in the local study area between 1980 and 2000. Table 3-10 presents earnings by place of work, which is a component of total personal income. The measure of earnings by place of work is more relevant than total personal income with respect to projecting impacts to an economy's input because it focuses on money earned by businesses (i.e., proprietor's income), wages/salaries of employees, and excludes exogenous inputs such as transfer payments.

Total personal income in Humboldt County in 2000 was nearly $3 billion dollars, almost three times income levels in 1980. The rate of change in total personal income has been lower in Humboldt County (49 percent) compared to the State (67 percent) since 1990.

In Humboldt County, earnings by place of work totaled nearly $1.9 billion dollars in 2000, which is approximately 64 percent of total personal income. Of this total, roughly 70 percent is attributed to wage and salary income and 21 percent to business earnings (proprietor's income). Earnings by place of work in Humboldt County have grown by 45 percent since 1990 and have more than doubled since 1980. Since 1990, proprietor's income has outpaced wage and salary income in Humboldt County, rising nearly 98 percent compared to 40 percent.

Table 3-9: Total Personal Income (in thousands of dollars)

AREA	1980	1990	2000
Humboldt County	$1,080,093	$1,966,112	$2,936,028
State of CA	$286,288,598	$655,567,167	$1,093,065,244

Source: Bureau of Economic Analysis, 2003

Table 3-10: Earnings by Place of Work (in thousands of dollars)

EMPLOYMENT TYPE	1980	1990	2000
Wage and Salary	$546,083	$950,161	$1,325,550
Proprietor's Income	$125,340	$202,874	$401,423
Other Labor	$77,381	$145,440	$159,863
Humboldt County (total)	**$748,804**	**$1,298,475**	**$1,886,836**
Wage and Salary	$164,243,847	$368,413,384	$638,795,808
Proprietor's Income	$26,921,343	$62,148,804	$120,226,020
Other Labor	$22,711,417	$52,363,733	$66,202,354
State of CA (total)	**$213,876,607**	**$482,925,921**	**$825,224,182**

Source: Bureau of Economic Analysis, 2003

Employment

Local and regional employment levels could also be directly or indirectly affected by implementation of the updated RMP. Table 3-11 presents absolute levels of employment by industry between 1980 and 2000 for Humboldt County.

The Humboldt County economy supported approximately 69,500 part-time and full-time jobs in 2000. Total employment has increased steadily since 1980, with a 19 percent job growth rate between 1980 and 1990, and 13 percent between 1990 and 2000. In terms of employment by industry in Humboldt County, the leading sectors consist of Services (31 percent), Retail Trade (19 percent), and Government (17 percent). As seen in Table 3-11, this pattern has been fairly consistent since 1980. The prominence of the Services sector, as a percentage of total employment in the County, has grown over time, from 25 percent in 1980 to 31 percent in 2000.

Table 3-11: Employment by Industry in Humboldt County

INDUSTRY	1980	1990	2000
Humboldt County (total)	51,607	61,377	69,448
Farm (Agriculture)	1,262 (2.5%)	1,424 (2.3%)	1,636 (2.4%)
Ag. Services, Forestry and Fishing	1,746 (3.4%)	1,689 (2.8%)	2,178 (3.1%)
Mining	93 (0.2%)	89 (.15%)	N/A [1]
Construction	1,951 (3.8%)	3,544 (5.8%)	3,739 (5.4%)
Manufacturing	7,194 (13.9%)	7,086 (11.5%)	6,980 (10.1%)
Transportation and Public Utilities	2,793 (5.4%)	2,888 (4.7%)	2,495 (3.6%)
Wholesale Trade	1,966 (3.8%)	2,070 (3.4%)	N/A [1]
Retail Trade	9,099 (17.6%)	12,002 (19.6%)	12,997 (18.7%)
Finance, Insurance and Real Estate	3,056 (5.9%)	3,298 (5.4%)	4,571 (6.6%)
Services	12,814 (24.8%)	16,681 (27.2%)	21,173 (30.5%)
Government	9,633 (18.7%)	10,606 (17.3%)	11,817 (17.0%)

[1] Data unavailable to avoid disclosure of confidential information, but the estimates for this item are included in the totals.
Source: Bureau of Economic Analysis, 2003

Shifts in Regional Economic Activity

For over 30 years, Humboldt County has been facing a decline in its resource-based economy, as non-traditional economic sectors become more dominant. Regionally, the economic base continues to shift from resource extraction industries, particularly timber harvesting and processing, to a mixed economy with tourism services representing a major component of the region's existing economy. This trend can be seen in Table 3-12, which presents earnings by industry for selected key industries in Humboldt County since 1980.

Table 3-12 illustrates the increasing importance of tourism and agriculture and the decreasing role of timber in the regional economy. Between 1980 and 2000, earnings in the lumber manufacturing sector have declined approximately 36 percent (in real terms) in Humboldt County; although the forestry sector expanded between 1980 and 1990 (data are not available for 2000). Despite its notable overall decline, logging still plays an important role in the Humboldt County economy outside the KRNCA. For example, lumber-based manufacturing generates roughly 75 percent of the County's total manufacturing income, and 27 percent of the timber produced in the State comes from Humboldt County (Humboldt County 2000). However, due to technological innovations and a reduction in the amount of local timber to be harvested (local mills now import some of the logs they process), timber production is now being done by fewer employees. As noted by one study, lumber-related jobs only accounted for 7.8 percent of employment in Humboldt County in 1997, in contrast to an estimated 50 percent in 1950 (Criley 2003).

During this same period (1980-2000), industry sectors supporting the agricultural and tourism economies have increased in Humboldt County. The agricultural sector declined between 1980 and 1990, but then experienced a significant increase, more than doubling from 1990 to 2000. This is most likely attributable to the close relationship between the agricultural industry and regional and state economies, which were

depressed in 1990, as well as to a relatively higher proportion of farm production expenses relative to gross farm income in 1990. Overall, the agricultural sector has increased by 50 percent in Humboldt County since 1980.

Table 3-12: Regional Trends in Earnings by Industry in Humboldt County (thousands of dollars) [1, 2]

INDUSTRY	1980	1990	2000
Agriculture			
Farm Industries	$33,706	$12,047	$33,200
Agricultural Services	$6,646	$13,535	$27,461
Sub-total	$40,352	$25,582	$60,661
Forest Products			
Forestry	$3,916	$5,126	NA [3]
Lumber and Wood Product Manufacturing	$263,309	$198,258	$169,278
Sub-total	$267,226	$203,384	-- [3]
Tourism Industry			
Retail Trade	$199,522	$228,510	$241,045
Hotels and other Lodging Places	$13,268	$13,231	$15,533
Amusement and Recreation Services	$6,775	$7,614	$12,601
Sub-total	$219,565	$249,354	$269,179

[1] Constant dollars (2000); adjusted using CPI inflation factor

[2] Components of earnings include wage and salary disbursements, other labor income, and proprietor's income

[3] Data not available in BEA database to avoid disclosure of confidential information; unable to calculate sub-total

Source: Bureau of Economic Analysis, 2003

As part of the agricultural sector, ranching also has historically been an important component of the local area's economy and sense of identity, and this continues today, although agriculture has gone through transformations somewhat similar to the timber industry. Livestock ranching and related products represent 59 percent of the total cash receipts from agricultural sales (including livestock and crops), down from 86 percent in 1980. The dairy industry still represents a substantial portion of Humboldt County agriculture; while it only produces 1 percent of the state's milk, regional demand actually is larger than the four local processors can supply (Hight 2000). Wool production in the region dropped significantly in the 1960s and '70s and remains low, but beef production has actually increased by nearly half since 1980. Both beef and dairy have benefited from a strong "buy local produce" mentality in the North Coast (Criley 2003).

The importance of the tourism industry in Humboldt County has been increasing as the region's economic base has shifted away from resource extraction. The tourism industry consists of a range of retail and service firms, including lodging establishments, restaurants, retail stores, gasoline service stations, and other businesses that sell products and services to travelers, all of which could be affected by RMP alternatives. The tourism industry has experienced a steady increase in the local study area over the last two decades, characterized by an overall increase of 23 percent in Humboldt County between 1980 and 2000. Of the sectors included in the tourism industry, the amusement and recreation sector has

experienced the greatest relative growth over time. Tourism expenditures translate into jobs (and wages/salaries), state and local government sales tax revenues, and state income taxes. According to the California Division of Tourism, there were 1.5 million recreational trips to Humboldt County in 1997. The average expenditure per day (statewide) was $63.60. Table 3-13 shows the contribution of tourism to the local and State economies.

Table 3-13: Statewide and Regional Trends in Tourism

AREA/CATEGORY	1992	1995	2000
Humboldt County			
Destination Spending ($million)	214.1	230.0	284.7
Earnings ($million)	63.2	68.1	82.8
Employment (jobs)	5,780	6,030	6,110
Local Tax Receipts ($million)	3.4	3.9	4.7
State Tax Receipts ($million)	9.7	10.5	13.1
State of CA			
Destination Spending ($billion)	40.1	44.2	66.0
Earnings ($billion)	16.0	17.5	24.9
Employment (thousands of jobs)	878	935	1,100
Local Tax Receipts ($billion)	0.9	1.1	1.7
State Tax Receipts ($billion)	2.0	2.2	3.1

Source: Dean Runyon Associates 2002

In 2000, travelers to the region contributed approximately $284.7 million to the Humboldt County economy. These spending levels supported 6,110 jobs with total earnings of $82.8 million in the County. Since 1992, travel spending in Humboldt County has grown at an average of 3.6 percent annually; this is lower than the statewide annual average of 6.4 percent between 1992 and 2000.

3.3.6.3 Components of Local Economic Base

Like the regional economy described in the sections above, the local economy in the immediate vicinity of the King Range has also undergone a major transition, from being heavily dependent on timber extraction to a more diverse economy with a greater dependence on tourism and the development of first and second (vacation) homes. The primary economic activities in the area currently are visitor-related services, ranching, new housing construction (especially in Shelter Cove and the gateway communities of Ferndale and Garberville), commercial and sport fishing out of Shelter Cove, and logging.

There is also an important but hard to measure "underground economy" of marijuana cultivation, particularly in southern Humboldt County, which brings money into the region not only through the sale of marijuana but also through purchase of local goods and services in support of the industry. In the early 1980s, the Redway/Garberville Chamber of Commerce estimated that the marijuana industry represented at least 25 percent of the area's economy; some more recent estimates put this percentage as high as 75 percent (this estimate is based on anecdotal evidence, as more accurate or scientific estimates are not available; see also Raphael 1985).

In addition to tourism and real estate services and construction, ranching and logging still play important roles in the local economy; within the KRNCA, there are four grazing allotments leased to local ranchers. Logging has not occurred inside the KRNCA boundary since the 1980s but does occur on private property near the KRNCA. A magnesium mine in the local area closed in the early 1960s (see Section 3.2.2, Minerals).

3.3.6.4 Local Economic Activity Affected by KRNCA Management

Recreation Management and Expenditures by Visitors

KRNCA visitation and related recreation activities generates positive income and employment effects in the local economy as visitors spend money on gasoline, lodging, and various supplies, including food and equipment. These expenditures support local employment and generate earnings for local proprietors and employees. Ultimately, these expenditures filter through the local and regional economies, generating indirect jobs and earning growth through what is often referred to as the "multiplier" effect.

Data on direct recreation expenditures is from the U.S. Fish and Wildlife Service's 2001 *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*, which was used to estimate expenditures for consumptive recreation activities (i.e., fishing and hunting), and on the U.S. Forest Service's 1998 *Draft General Technical Report, Developing Expenditure Profiles for Forest Service Recreation Visitors*, which was used for all other recreation activities.

Because the expenditures by non-locals are necessarily higher on a daily basis than expenditures made by locals, and because non-local expenditures bring new dollars into the local economy, and thereby serve to expand the local economy, separate estimates were prepared for both local and non-local visitors. Generally, locals are defined as residents who live within 50 miles of the KRNCA; all other recreationists are considered non-locals.[14] This treatment is consistent with methodology used by the U.S. Forest Service in developing its expenditure profiles, which serves as the basis for the recreation expenditure profiles used in this analysis and by the BLM in assessment of *Employment and Income in the Western U.S. Attributable to BLM Recreation* (2001). The breakdown of local versus non-local visitors at KRNCA is based on the *Final Management Report for 1997 Lost Coast Trail Backcountry Visitor Study*, a report to the BLM prepared by Humboldt State University (Martin and Widner 1998). Origin data from this report serve as a proxy for all recreation visitors, and indicates that 11 percent of visitors traveled less than 50 miles to reach the KRNCA. Therefore, 11 percent of total visitors are considered locals, while the remaining 89 percent are considered non-locals. The number of hours spent pursuing different recreation activities on these visits is translated into Visitor Days, which represent twelve hours of a given activity. This information serves as an effective proxy for estimating resident Visitor Days of 15,930 per year and non-resident Visitor Days of 128,886 per year.

Data on recreation visitation is derived from the BLM's Recreation Management Information System (RMIS) and professional estimates for dispersed use (see Section 3.13 for more information). Total

[14] This holds true for all recreation activities except for hunting and fishing. Expenditure data for hunting and fishing are based on a State resident versus non-resident basis as presented in the *U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.* It is not possible to determine the number of resident hunters and anglers that live within 50 miles from their destination.

recreation visits to KRNCA, including Special Recreation Permits, are estimated at 129,610 for fiscal year 2002. These total visits yield an estimated total of 144,816 Visitor Days per year.

It is also important to distinguish the types of recreation activities that visitors are participating in to evaluate the economic effects of recreation spending because different activities generate significantly different expenditures. Table 3-14 summarizes recreation use and average expenditure information by activity. Recreation expenditure profiles for locals and non-locals were developed based on existing data sources as described above.[15] All estimates are in 2000 dollars and do not include the non-market values addressed in Section 3.3.6.6 below.

Table 3-14: Economic Impact of Recreation Expenditures at KRNCA

RECREATION ACTIVITY	ANNUAL VISITOR DAYS (LOCAL / NON-LOCAL)	AVERAGE DIRECT EXPENDITURES PER DAY (LOCAL / NON-LOCAL) [1]	TOTAL DIRECT EXPENDITURES [2]
Backpacking	8,198 / 66,327	$10.69 / $54.45	$3,699,125
Camping	4,433 / 35,864	$22.87 / $37.81	$1,457,389
Driving for Pleasure	602 / 4,868	$26.05 / $71.37	$363,117
Fishing (freshwater)	16 / 133	$38.83 / $67.16	$9,549
Gathering Non-Commercial Forest Products	98 / 792	$22.87 / $50.65	$42,348
Horseback Riding	771 / 6,237	$10.69 / $54.45	$347,869
Hunting (Big game)	650 / 5,255	$43.93 / $131.31	$718,607
Hiking/Walking	443 / 3,585	$10.69 / $54.45	$199,925
Nature Study	55 / 444	$22.87 / $50.65	$23,769
Picnicking	260 / 2,106	$22.87 / $37.81	$85,596
Photography	53 / 428	$22.87 / $50.65	$22,882
Swimming	122 / 990	$22.87 / $37.81	$40,233
Viewing Interpretive Exhibits	48 / 387	$22.87 / $50.65	$20,686
Viewing – Other	11 / 85	$22.87 / $50.65	$4,562
Wildlife Viewing	171 / 1,384	$22.87 / $50.65	$73,999
TOTAL	**15,930 / 128,886**	**--**	**$7,109,656**

[1] Recreation expenditure profiles do not necessarily correspond directly to the specific types of recreation activities occurring at KRNCA. Average expenditures for each activity are based on the most applicable expenditure category.
[2] Total direct expenditures by recreationists result in direct and indirect income effects to local proprietors and residents.

Applying recreation expenditure estimates to the estimated number of days for each activity yields a total estimate of $7,109,656 (2000 dollars) for expenditures associated with recreational activities in the

[15] The estimates of direct visitor expenditures are intentionally conservative. BLM visitor days are expressed as 12 hours of a given activity. However, the expenditure data from both the U.S. Forest Service and the U.S. Fish and Wildlife Service are expressed as activity days. Any part of a day spent in a given activity is counted as one activity day. For example, if someone hunted for 6 hours one day and 6 hours another day, it would represent 2 activity days for hunting. However, such use would only represent one 13-hour BLM visitor day. We are not aware of a reliable database to convert visitor days to activity days. As a result, the direct visitor expenditure amounts in this study should be regarded as conservative estimates and therefore actual expenditures may be higher.

planning area; $265,534 for local visitors, and $6,844,122 for non-local visitors. This averages about $49.09 per person, per day.

As indicated above, the visitation data summarized in this section includes activities associated with special use permits. In fiscal year 2001, BLM issued Special Recreation Permits for 36 events serving a total of 1,086 participants. Of these, 14 were commercial permits, which included one local event for Mal Coombs Park, one for ongoing shuttle service, and 12 for Lost Coast backpack trips, totaling 620 participants. The remaining 22 were non-commercial permits, which included three permits for special events (i.e., memorial services and a wedding) and 19 for Lost Coast backpack trips for organized groups. Fees received by BLM for the Special Recreation Permits (commercial permits only) totaled approximately $7,655. Individual permits for campground use cost $5 or $8 depending on the site. Fee receipts from campgrounds totaled $12,062 in 2002.

Estimated recreation-associated expenditures by individual participants generated by the KRNCA in 2001 totaled $7,109,656 or $7.1 million. Direct and indirect economic effects of these expenditures are based on an analysis of recreation-based multipliers prepared by the U.S. Army Corps of Engineers for Lake Mendocino (1999), another North Coast recreation destination.[16] These multipliers estimate effects to the "region," which is defined as all counties within a 30 mile radius of the project. The recreation expenditure-related effects described in this section would primarily be based in Humboldt County, and to a lesser extent in Mendocino County. Other areas would benefit as well; for example, visitors might purchase gasoline or lunch in Marin or Sonoma County as they travel from the San Francisco Bay Area. In total, recreation expenditures are estimated to generate $2.46 million in direct labor and proprietor income and created or sustained 143.7 jobs (2,000 hour full-time equivalent) as a direct effect. Non-local expenditures totaling $6,844,122, which bring in new money and contribute to the expansion of the regional economy, generated $2,371,488 of that total, in new income, and directly created 138.3 new jobs of the 143.7 jobs total. The total direct, indirect, and induced effect of these expenditures on the regional economy amounts to $4.30 million in income and 197.8 jobs.

Grazing Management

The KRNCA provides livestock grazing opportunities to local ranchers through the administration of cattle grazing leases on public land allotments. These leases generate local income and employment benefits to ranchers and their employees utilizing the KRNCA, and other economic benefits for local County governments, including sales and income tax revenue. In addition, cattle ranching leads to indirect economic effects related to ancillary expenditures made by local ranchers for services and products in the agricultural services industry that help support their ranching businesses. Changes in KRNCA grazing practices could therefore affect the local and regional economy.

Currently, the BLM administers grazing leases to a total of five operators for a total of 2,050 Animal Unit Months (AUMs)[17] annually (see Section 3.10 for additional information regarding KRNCA grazing). The

[16] Direct and indirect income and employment effects are derived from the total recreation expenditures at the KRNCA. Direct income effects are lower than total recreation expenditures because they account for costs associated with providing recreation goods and services. Indirect and induced effects result from the multiplier effect of direct expenditures circulating through the economy.

[17] An AUM is the amount of forage needed by an "animal unit" (AU) grazing for one month, with the animal unit defined as one mature 1,000 pound cow and her calf.

economic value of grazing to potentially affected ranchers, their employees, and the local and regional economies is primarily related to the quantity of cattle supported through the cattle leases and the associated revenues earned and expenditures made to support that level of cattle production. Information on representative revenues and costs associated with cattle production in Humboldt County was collected to help define related and existing economic conditions related to potentially affected KRNCA cattle grazing. A Beef Production Cost Study for Humboldt County published by the local U.C. Cooperative Extension office (1981) was used for this RMP and EIS and the revenue and cost information from this Humboldt County study was adjusted to current (2000) dollars and compared to other, more recent, typical enterprise budgets for cattle ranching in other parts of California to confirm that the adjusted data was applicable to current conditions.

Using the source cited above, it is estimated that in Humboldt County, gross revenues and expenses (cash costs) associated with a typical 200-cow cattle ranching operation are approximately $486.71 and $406.67 per cow (2000 dollars), respectively; therefore, net revenues (or income earned by the rancher) are estimated to be roughly $80.04 per cow. (Note: these figures exclude family labor and non-cash costs from expenses). The net revenues represent income earned by the rancher and costs represent money input to the local economy, mainly in the agricultural services sector (e.g., feed; veterinary costs and medication; gasoline, oil, and equipment repairs; maintenance; insurance, part-time, non-family labor; dog expense, horse expense, replacement bulls; and other miscellaneous overhead and operating expenses).

Currently, grazing allotments at the KRNCA can support up to a total of approximately a 256-340 cow-calf herd (based on 2,050 AUMs for all potentially affected ranches combined for a season of use between six and eight months). However, on average, grazing levels at KRNCA are lower than capacity, averaging about 220 cows (1,540 AUMs), and in 2002, roughly 1,500 AUMs were grazed supporting roughly 214 cows. Based on this range (214-340 cows) and typical revenues and costs, it is estimated that grazing at KRNCA generates a total of approximately $104,004 - $165,240 in annual gross revenues. Expenditures for ancillary services that serve as inputs into the local economy range from $86,884 - $138,040; these expenditures also result in sales tax revenues that are realized by state and local county governments. Net income earned by local ranchers ranges between $17,120 and $27,200 annually. It is not known how many jobs are supported by grazing at KRNCA. However, grazing would generate some level of direct employment effects (i.e., jobs to ranchers) and secondary job effects as money is circulated through the local and regional economies. The direct and indirect income that is earned also results in income tax revenues for federal, state, and local governments.

Funding Local Conservation Programs

BLM has been actively supporting local conservation programs through direct funding of projects and programs. This funding is a direct input to the local economy. As these funds are spent to implement specific projects, direct and indirect income, employment, and fiscal (tax revenue) benefits are generated.

Historically, the BLM has provided funding to a wide range of non-profit organizations to perform work in the KRNCA, mostly for watershed restoration projects (e.g., road removal/revegetation and other sediment reduction efforts). However, other projects included historic structure restoration, trail and fuel break construction, and other types of vegetation management. Organizations that received funding included several local watershed/fishery restoration groups, volunteer fire departments, county government, a historic preservation society, and an interpretive association. In total, the BLM provided

roughly $1,620,000 for completion of public land projects to organizations in the communities immediately surrounding the King Range from 1994-2003. This translates into an annual average of about $162,000.

Specialty Forest Product Management

Some of the resources found within the KRNCA represent specialty forest products that are mostly harvested by local residents. These resources include mushrooms, beargrass, and firewood. The harvesting and subsequent re-sale of these products generates income and could be affected by changes in KRNCA management.

The economic impact of mushroom, beargrass, and firewood harvesting is relatively minor and estimates of the income generated by such harvesting are not available. Much of the harvesting is used for personal use, and while some commercial harvesting takes place, it is highly variable and hard to measure because most of the transactions are cash deals from family-owned operations. However, some permit data is available. In terms of commercial mushroom harvesting, the BLM issues a maximum of thirty permits at one time with no harvest limits. The harvesting season lasts four to six weeks. Beargrass is harvested in the KRNCA for the floral industry. The BLM typically issues ten to twelve permits per year for beargrass harvesting. Lastly, downed timber is sometimes harvested for firewood by local residents and the BLM periodically issues permits for collecting firewood after storm events.

Road and Facility Maintenance and BLM Employment

BLM contracts with local construction companies for road grading activities and janitorial service providers for facility maintenance and clean-up. Such contracting supports jobs and generates income for local service providers. Currently, the BLM is involved in maintenance contracts with local contractors totaling about $40,000 to $45,000 per year for janitorial services at the BLM office, campgrounds, and recreation sites as well as for road grading activities.

The BLM employs nine people (not including seasonal employees) at the KRNCA in the Whitethorn office, which includes two permanent fire staff. The local payroll totals approximately $427,000 per year; including benefits, payroll expenditures total $521,000 per year.

3.3.6.5 Fiscal Resources and Public Services

Fiscal resources (tax revenue received by government agencies) and related public services could be affected by the RMP. The sections below focus on the major types of fiscal resources and public services that could be affected by the RMP: sales and lodging tax revenues generated by KRNCA visitors, emergency services, and law enforcement. Property values and potential property tax considerations are addressed below. Existing road maintenance activities by local counties and the related MOUs between the counties and BLM are not expected to change as a result of the RMP.

Sales and Lodging Taxes

The major fiscal resources most affected by KRNCA management are visitor sales and lodging tax revenues received by Humboldt County. The RMP will not include major changes in land tenure;

therefore, changes in local government property tax revenues are expected to be minor, and changes in payments-in-lieu of taxes (PILT) (which are currently estimated to be roughly $500,000 per year) will also be modest.

Existing sales and lodging taxes (i.e., transient occupancy taxes or TOT revenues) could be affected by the RMP, thereby impacting Humboldt County revenues, if the RMP leads to changes in KRNCA visitation levels. In total, over $13 million in sales revenues were distributed to cities and/or county governments in Humboldt County during the fiscal year 2000-01. Sales tax revenues at the county level grew by 65 percent in Humboldt County between 1990-91 and 2000-01 (State Board of Equalization 1992, 2002).

TOT revenues from sales and lodging taxes have grown considerably in the study area since 1992. In total, nearly $3 million in TOT revenues were generated in Humboldt County in 2000 (Dean Runyon Associates 2002). TOT revenues have increased in Humboldt County at an average annual rate of 4.6 percent between 1992 and 2000. Local trends in TOT revenues are lower than statewide trends where growth averaged 8.8 percent annually since 1992.

Emergency Services and Law Enforcement

Emergency services and crime control/law enforcement could be affected by the RMP. Emergency services, including search and rescue of hikers and others who need assistance, is provided by the Humboldt and Mendocino County Sheriff Departments, BLM, and for offshore assistance, the U.S. Coast Guard. The Honeydew, Shelter Cove, and Petrolia Volunteer Fire Departments also assist and are often the first people on the scene during search and rescue operations. Existing search and rescue operations typically average five to ten incidents per year under existing conditions and baseline recreation/visitation use. The year 2000 was a notable and tragic year, with four KRNCA visitors dying during two incidents. BLM law enforcement staff, the two county sheriff departments, and Coast Guard also routinely enforce a variety of laws and regulations that are often violated by visitors, including boating safety rules, traffic laws, camping regulations, thefts and vandalism, etc.

The local volunteer fire departments listed above, BLM staff, and the California Division of Forestry and Fire Protection are the primary agencies involved with fire-fighting. The relatively abundant vegetation found in the study area combined with extreme weather conditions, including notable wind and heat during the summer and fall, lead to hazardous fire conditions. (See Section 3.11, Fire Management, for detail on frequency of fire in the King Range.) BLM coordinates its fuel/vegetation management and fire-fighting activities with the local volunteer fire departments, and its cooperative agreements with the local departments total approximately $4,000 to $5,000 per year.

3.3.6.6 Other Economic Values (including Non-Market Values)

In addition to the existing economic conditions described in previous sections, it is important to also consider the non-market values of the study area's attributes that may be affected by the RMP's alternatives, including its natural and cultural resources. Unlike gasoline or employee wages, these values either do not have a market or, in the case of property values, do have a market but are difficult to quantify. Nevertheless, such values are important to consider because they help tell the entire economic "story." Despite the difficulties associated with measurement of these values, it is well-accepted that the

natural and cultural resources of an area, and the open space the area may provide, can have a dollar value. For example, it is common for real estate investors to pay more for view lots or property adjacent to open space, or for people to make financial donations to help protect old-growth forests, endangered species, or other sensitive resources.

Non-market values consist of "use values" and "non-use values." Use values are the dollar values of those benefits derived from the direct utilization of the resource area (e.g., hiking, hunting, general nature appreciation, etc.). Economists measure the non-market component of use values by estimating the consumer surplus associated with these activities, which is defined as the maximum dollar amount above the actual market price that a consumer would be willing to pay to enjoy a good or service. The market component of use values is relatively easy to measure, via expenditures by recreationists; however, not all goods and services provided by KRNCA have market values. Non-use values refer to the benefits derived from the mere presence of the KRNCA as open space, or from the protection of related resources. Such values typically have two components: option values and existence values. Option value represents the benefits from having these properties available for future use, while existence value reflects the willingness-to-pay to know these resources simply exist. One methodology used to place a dollar value on non-use values is contingent valuation, a technique that involves the use of surveys to help determine people's willingness to pay for something.

Open spaces also generate other types of value, including market values (the sales value of open space that is available for sale); enhancement values (positive influence on property values); production values (value of commodities produced by open space); the value of open space as a natural system (benefits of a natural ecosystem realized directly and indirectly by society); and more intangible values (e.g., scientific, aesthetic, genetic diversity, historical, cultural, and religious values).

The enhancement value of open space on property values has been well researched and documented. Numerous studies have demonstrated that homes and properties located close to open space are more valuable relative to properties located further away, holding all else constant. This relationship varies based on the various characteristics (type, size, location, etc.) of open space resources, including the quality of views provided by the open space near a property. Open space can indirectly affect property tax revenues realized by local jurisdictions through the effect open spaces have on property value assessments.

To help the reader understand the potential value of some of the KRNCA's natural and cultural resources, and example of a range of typical non-market values for recreation activities is summarized in Table 3-15 from a recently published U.S. Forest Service report titled *Benefit Transfer of Outdoor Recreation Use Values* (Rosenberger and Loomis 2001). The Forest Service study used a "benefits transfer" methodology, which is defined as the application of existing information and knowledge on benefit values to new contexts. Table 3-15 provides summary statistics related to consumer surplus for 21 recreation activities derived from various economic studies and as compiled in the Forest Service report.

By applying the range of values in Table 3-15, an estimate of the recreation-related consumer surplus (using fiscal year 2002 recreation data) can be derived for the KRNCA; this is estimated to be $3,723,785 per year (2000 dollars). While this may seem high, it represents a weighted average value of only $25.71 per Visitor Day for all types of recreation, including hunting and fishing. This represents the total amount recreationists would likely be willing to pay for the related recreation activities if a fee for

participation were required. Those who are accustomed to free access and use of the public land tend to forget that it represents a recreation opportunity and experience that many would be willing to pay for. Participants in KRNCA-related organized recreation events that obtain commercial Special Recreation Permits have paid a fee for that activity, so the fees obtained from these permits ($7,655) are excluded from this estimate.

Table 3-15: Summary Statistics on Average Consumer Surplus Values (per activity day per person from recreation demand studies – 1967 to 1998)[1]

ACTIVITY	NUMBER OF STUDIES	NUMBER OF ESTIMATES	MEAN OF ESTIMATES	MEDIAN OF ESTIMATES	STD. ERROR OF MEAN	RANGE OF ESTIMATES
Camping	22	40	$30.36	$24.09	5.50	$1.69-187.11
Picnicking	7	12	$35.26	$24.21	9.66	$7.45-118.95
Swimming	9	12	$21.08	$18.19	4.46	$1.83-49.08
Sightseeing	9	20	$35.88	$21.13	9.41	$0.54-174.81
Off-road driving	3	4	$17.43	$15.85	6.27	$4.37-33.64
Motorized boating	9	14	$34.75	$18.15	11.65	$4.40-169.68
Non-motorized boating	13	19	$61.57	$36.42	13.76	$15.04-263.68
Hiking	17	29	$36.63	$23.21	7.87	$1.56-218.37
Biking	3	5	$45.15	$54.90	8.40	$17.61-62.88
Big game hunting	35	177	$43.17	$37.30	2.21	$4.74-209.08
Small game hunting	11	19	$35.70	$27.71	9.56	$3.47-190.17
Fishing [2]	39	122	$35.89	$20.19	3.42	$1.73-210.94
Wildlife viewing	16	157	$30.67	$28.26	1.38	$2.36-161.59
Horseback riding	1	1	$15.10	$15.10	0	$15.10-15.10
Rock climbing	2	4	$52.96	$48.14	11.80	$29.83-85.74
General recreation	12	31	$24.26	$10.03	7.48	$1.18-214.59
Other recreation	11	16	$40.58	$33.78	9.64	$4.76-172.34

[1] Constant dollars (fourth quarter, 1996)

[2] Fishing includes all types of fishing such as cold water, warm water, and salt-water fishing. The number of estimates for fishing is under-representative of the entire body of knowledge since fishing studies were not a primary focus of the literature review.

Source: Rosenberger and Loomis 2001.

3.4 CULTURAL AND HISTORIC RESOURCES

3.4.1 Introduction

The KRNCA is rich in the remains of prehistoric occupation and numerous historic activities. The topography, coastal setting, presence of numerous perennial and seasonal water sources, wide range of floral and faunal species and other natural resources made this region a prime location for human habitation and economic pursuits over thousands of years. Cultural resources in the KRNCA range from early Native American village sites and activity areas to the remains of historic structures associated with tanbark, shipping, ranching, and recreational industries. Many sites have been documented within the